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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/598,822	05/16/2007	David A. Fish	GB040065US1	1704

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BRIARCLIFF MANOR, NY 10510

EXAMINER

FRY, MATTHEW A

ART UNIT	PAPER NUMBER
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2629

NOTIFICATION DATE	DELIVERY MODE
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03/09/2011

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/598,822	FISH ET AL.	
	Examiner	Art Unit	
	MATTHEW A. FRY	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 June 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 and 19-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17, 19-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-18 and 19-23 have been considered but are moot in view of the new ground(s) of rejection.
2. Applicant argues (Remarks page 8) the 35 USC 112 second paragraph rejection of claim 7 and provides an explanation as to the first angle. However, this does not clarify the claim language. The term "first angle" must be further described in the claim or removed. A possible amendment may read "the bottom electrode is for reflecting light emitted at an angle great enough to reach the light dependent device." The Examiner would suggest canceling the claim as it does not appear to further limit the parent claims, as the parent claims already require a lateral location of the light sensor.
3. Applicant argues (remarks pages 8-9) the 35 USC 112 second paragraph rejection of claim 12 and provides an explanation as to the term lower. However, this does not clarify the claim language as the description provided by the applicant is not provided in the claim. The Examiner would recommend amending the claim to read "low resistance shunt." The term lower implies a comparison and is unclear without explanation of the comparison.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claims 7 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claim 7 recites the limitation, “a first angle” with no explanation what the first angle represents or if it’s a first angle to the normal or what reference points it’s based off of, making the claim indefinite. If it is presumed to be any angle, than the claim fails to further limit the parent claim.

7. Claim 12 recites the limitation “lower resistance” but does not state what it is lower than and is therefore unclear.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-3, 5-8 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamazaki et al (US 2002/0180672).

10. In regards to claim 1, Yamazaki discloses an active matrix display device comprising an array of display pixels (104) (see figure 2), each pixel comprising:

a current-driven light emitting display element (132) comprising an area of light emitting material sandwiched between electrodes (¶ 73);

a light-dependent device (136) for detecting the brightness of the display element (see figure 3; ¶ 120),

wherein the light-dependent device (238) is located laterally outside of the area of the light emitting material (656) defined by the vertical planar edges of the light emitting layer of the light emitting material, and separated from the light emitting material by at least one insulating layer (653),

wherein the vertical planar edges of the light emitting material are defined in a direction between a top and a bottom electrode of the light-dependent device (see figure 14; ¶ 238) and

a drive transistor circuit (131; figure 3) for driving a current through the display element, wherein the drive transistor is controlled in response to the light-dependent device output (¶ 19-24).

11. In regards to claim 2, Yamazaki discloses a device as claimed in claim 1, wherein the light-dependent device comprises a photodiode (¶ 19).

12. In regards to claim 3, Yamazaki discloses a device as claimed in claim 2, wherein the photodiode comprises a PIN or NIP diode stack or a Schottky diode and top and bottom contact terminals (see ¶ 71; figure 14).

13. In regards to claim 5, Yamazaki discloses a device as claimed in claim 1, wherein the electrodes comprise a top substantially transparent electrode (658)(¶ 236) and a bottom substantially non-transparent, reflective electrode (655) (figure 14; ¶ 336).

14. In regards to claim 6, Yamazaki discloses a device as claimed claim 5, wherein the bottom electrode is for reflecting light from the display element to the light dependent device (¶ 336; figure 14).

15. In regards to claim 7, Yamazaki discloses a device as claimed in claim 6, wherein the bottom electrode is for reflecting light emitted at an angle to the normal greater than a first angle to the light dependent device (figure 14; ¶ 336).

16. In regards to claim 8, Yamazaki discloses a device as claimed in claim 6, further comprising a reflecting layer (660) above the light dependent device and for reflecting light from the bottom electrode to the light dependent device (see figure 14).

17. In regards to claim 23, Yamazaki discloses a device as claimed in claim 1, wherein the light emitting display element comprises an electroluminescent display element (see abstract).

18. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki et al (US 2002/0180672) in view of Zavracky et al (US 5,751,261).

19. In regards to claim 4, Yamazaki discloses a device as claimed in claim 3, but does not discuss a light shield covering the side of the photodiode.

Zavrachy teaches a display comprising a photodiode wherein the top (93) contact terminal (1067) extends over the top of the stack and down one side of the stack and acts as a light shield to pixels on the one side of the photodiode (94) (see figure 7H)

Shielding the photodiode from ambient light and light emitted from other pixels would have been obvious to one of ordinary skill in the art in order to provide the most

accurate reading of the emitted light.

20. Claims 9-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki et al (US 2002/0180672) in view of Yamazaki et al (US 2001/0026125) (referred to as '125).

21. In regards to claim 9, Yamazaki discloses a device as claimed in claim 8, but does not teach a plurality of printing dams.

Yamazaki ('125) teaches a display further comprises a plurality of printing dams (78) (105) and the light emitting material (76) (106) comprises a printable material (see figure 1b).

It would have been obvious to one of ordinary skill in the art to modify Yamazaki with Yamazaki ('125) as use of banks are commonly known in the art of display manufacturing and assist in accurate printing of different EL elements.

22. In regards to claim 10, Yamazaki as modified discloses a device as claimed in claim 9, wherein the reflecting layer (660) is formed at the base of the printing dams (78) (see Yamazaki ('672) figure 14; Yamazaki ('125) figure 1B). It would have been an obvious design choice to place the printing dams over the reflecting layer.

23. In regards to claim 11, Yamazaki as modified discloses a device as claimed in claim 9, wherein the printing dams comprise an insulating body (105a) and a conducting metal layer (105b and 107) over the insulating body (see Yamazaki ('125) figure 1b).

24. In regards to claim 12, Yamazaki as modified discloses a device as claimed in claim 11, wherein the conducting metal layer (105b) provides a lower resistance shunt connecting the top substantially transparent electrodes (see figure 1B).

25. In regards to claim 13, Yamazaki as modified discloses a device as claimed in claim 11, wherein the conducting metal layer defines the reflecting layer (see Yamazaki ('125) figure 1b; Yamazaki ('672) figure 14). As discussed above comparing the two figures From Yamazaki and Yamazaki, it would have been an obvious design choice to place the printing dam over the reflecting layer. As reflective conductive layers are well known and commonly used in the display art, it would have been obvious for one of ordinary skill in the art to try utilizing the conducting metal layer as the reflecting layer.

26. In regards to claim 14, Yamazaki as modified discloses a device as claimed in claim 9, wherein the light sensitive devices are formed beneath the priming dams (see claim 10 explanation).

27. Claims 15-17 and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki et al (US 2002/0180672) in view of Forrest et al (US 2004/0031965).

28. In regards to claim 15, Yamazaki discloses a device as claimed in claim 1, wherein the electrodes comprise a top substantially transparent electrode but doesn't teach the bottom electrode being substantially transparent.

Forrest teaches a display element wherein both top and bottom electrodes are transparent (74) (see Forrest ¶ 39).

It would have been an obvious design choice, for one of ordinary skill in the art, to modify Yamazaki with Forrest such that the bottom electrode is transparent and a reflective layer is place under it. Such a modification would have provided the same predictable results as making the bottom electrode reflective, and as such is merely dependent on the design preferences.

29. In regards to claim 16, Yamazaki as modified discloses a device as claimed in claim 15, wherein the device further comprises an additional reflective layer beneath the bottom electrode (74) (see Forrest ¶ 50).

30. In regards to claim 17, Yamazaki as modified discloses a device as claimed in claim 16, further comprising a reflecting layer above the light dependent device (90) and for reflecting light from the reflecting layer to the light dependent device (see Forrest ¶ 36 and 66).

31. In regards to claim 21, Yamazaki as modified discloses a device as claimed in claim 1, wherein the light-dependent device extends alongside the area of light emitting material and extends along substantially the full length of one side of the area of light emitting material (see Forrest figure 2; Yamazaki figure 14).

32. In regards to claim 22, Hayashi as modified discloses a device as claimed in claim 21, but does not explicitly teach wherein the light-dependent device extends around an upper and lower portion of the area of light emitting material. However, this would have been an obvious design choice for one of ordinary skill in the art, as it would increase the amount of luminance received by the light-dependent device.

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33. Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki et al (US 2002/0180672) in view of Forrest et al (US 2004/0031965) and further in view of Yamazaki et al (US 2001/0026125) (referred to as '125).

34. In regards to claims 19 and 20, see claim 9 and 10 explanations above.

Conclusion

35. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 2005/0253790 and US 2002/0027229.

36. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MATTHEW A. FRY whose telephone number is (571) 270-7355. The examiner can normally be reached on Monday thru Friday, 8:00 AM to 5:00 PM, alternate Fridays, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (571) 272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Bipin Shalwala/
Supervisory Patent Examiner, Art Unit 2629

/MATTHEW A FRY/
Examiner, Art Unit 2629

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